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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,164	12/31/2003	J. Nelson Wright	341148020US	5009

69414   7590   11/10/2009
CALYPSO MEDICAL / PERKINS COIE, LLP
P.O. BOX 1247
SEATTLE, WA 98111-1247

EXAMINER
KISH, JAMES M

ART UNIT	PAPER NUMBER
3737	

NOTIFICATION DATE	DELIVERY MODE
11/10/2009	ELECTRONIC

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1   RECORD OF ORAL HEARING

2   UNITED STATES PATENT AND TRADEMARK OFFICE

3   _____

4   BEFORE THE BOARD OF PATENT APPEALS

5   AND INTERFERENCES

                    _____

6   *Ex parte* J. NELSON WRIGHT and LAURENCE J. NEWELL

7   _____

8   Appeal 2009-003286

9   Application 10/750,164

10   Technology Center 3700

11   _____

      Oral Hearing Held: October 21, 2009

12   _____

13 Before TONI R. SCHEINER, RICHARD M. LEBOVITZ, and

14 FRANCISCO C. PRATS, *Administrative Patent Judges.*

15 APPEARANCES:

16 ON BEHALF OF THE APPELLANTS:

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20

21   The above-entitled matter came on for hearing Monday, October 21,

22 2009, commencing at 9:05 a.m., at the U.S. Patent and Trademark Office,

23 600 Dulany Street, Alexandria, Virginia, before Dominico Quattrociocchi, a

24 Notary Public.

25

1	PROCEEDINGS
2	THE USHER: Good morning. Calendar No. 46, Mrs. Betcher.
3	JUDGE SCHEINER: Thank you.
4	THE USHER: You're welcome.
5	JUDGE SCHEINER: Thanks.
6	MS. BETCHER: Morning.
7	JUDGE SCHEINER: Morning. Whenever you're ready you can get
8	started, and you'll have 20 minutes.
9	MS. BETCHER: Okay. Thank you.
10	JUDGE SCHEINER: So unless we ask you a lot of questions and
11	then --
12	MS. BETCHER: Okay.
13	JUDGE SCHEINER: Okay.
14	MS. BETCHER: Good morning.
15	JUDGE SCHEINER: Good morning.
16	MS. BETCHER: Would the Panel permit me to do a brief overview
17	of the technology or would you like me --
18	JUDGE SCHEINER: Certainly. Go ahead.
19	MS. BETCHER: Okay. So Calypso Medical is the -- started in 1999.
20	I've been helping them going through patents for the last nine years. They
21	have approximately 80 U.S. and foreign patents, including the primary
22	reference -- this is one of their earlier patents, and I'm quite familiar with it.
23	Their system uses non-ionizing radiation to provide real-time, continuous
24	tracking of an electromagnetic transponder that's implanted in soft tissue,
25	and it's used during radiation therapy.

1 And the importance of that is that there's kind of six components to

2 the system. There is a wireless transponder that's implanted. There is the

3 array, which actually includes the source coils and the sensor coils, and that's

4 where the invention lies, is in the array. There is a console that the array is

5 attached to, which has a user interface, infrared cameras to locate the array,

6 and then -- tracking station, which is outside of the vault.

7 And the importance of using it during radiation therapy is that the

8 array has to be extremely low density because the radiation beam actually

9 transmits through the array. So it's got an -- equivalent to about 3

10 millimeters of water. So that allows the array to be left in place. No one

11 has to go into the radiation vault during radiation therapy to move anything.

12 So getting into the case, then, the -- I'll just start by saying that a

13 prima facie case of obviousness hasn't been established because all of the

14 elements are not found in the prior art. The primary reference is Mate, as I

15 noted, and that's an earlier Calypso case. Mate was directed toward

16 localizing and tracking the marker. So Mate is attempting to differentiate

17 between the excitation signal and the response signal from the marker. And

18 you've got to differentiate those two signals in order to hear the response

19 signal from the marker, which is much smaller than the excitation signal

20 that's fed out.

21 Mate doesn't really contemplate there being this external interference

22 from the radiation beam itself, and, in fact, there is a section of Mate that

23 says, "The system allows the target's actual position relative to the machine

24 isocenter to be monitored during radiation therapy so as to minimize

25 collateral damage." It just kind of walks right over the fact that the radiation

1 beam, when it comes on, it's such a corruptive signal. It just doesn't address

2 it. Mate is silent with respect to that. Later, as they implemented the system

3 for localizing and tracking, they realized that they needed to deal with the

4 radiation beam.

5   And so this case is dealing with the radiation beam. And so different

6 than -- both problems exist. The problem that Mate is doing, which is

7 differentiating between the excitation signal and the marker signal, that still

8 must be done to locate the marker. But now we're dealing with a second

9 problem, which is dealing with the corruptive therapeutic radiation source.

10 And so there is differentiating, which Mate is doing. There is filtering,

11 which Acker is doing.   Acker uses the conventional electronic signal filter,

12 and when the signal comes through, any type of signal filter, the idea is to

13 identify the characteristics of the signal in order to clean it up and allow the

14 signal to pass more cleanly through.

15   So most conventional filters are directed toward matching that signal.

16 In this case, this case is directed toward matching the corruption. It's trying

17 to identify when does the corruption come through. And then when they

18 detect corruption, all of the data is thrown out. So instead of -- it's

19 discarding, which is the Claim 1 -- instead of either differentiating or

20 filtering. We're not allowing the filter to go through. And so it's a little

21 counter-intuitive from what's being taught.

22   What's being taught in Mate is to differentiate, which would make

23 sense -- if you've got some type of corruptive, you know, interference, you'd

24 want to differentiate it. That makes sense -- or filtering. You would identify

25 the signal that you'd want to go through, and you would kind of push

1   everything else out of the way. But in this case, we're actually identifying

2   the corruptive when the radiation therapy beam is on. And we're discarding

3   everything.

4   JUDGE LEBOVITZ: Can you point where the spec correlation

5   processor is described?

6   MS. BETCHER: So I actually looked up that term, and the term isn't

7   in the spec. It instead is probably -- and I can find it if you'll just give me a

8   minute, because I looked that up myself. And what it's doing is correlating

9   those four source coils that excite the markers, and there's 32 sensor coils

10 that listen for the response signal. And it's correlating those 32 response

11 signals. And so it's -- that's the meaning of the correlation processor. And I

12 can either find it right now or I can -- if you want to give me just a minute.

13 But I did look that exact thing up.

14   JUDGE LEBOVITZ: If it's readily available to you.

15   MS. BETCHER: Yeah. Let me just -- I marked it, but I marked quite

16 a few things. Sorry. So it -- one area that I've marked it is -- and I have the

17 application as filed, so it's actually under description of suitable systems

18 right at the beginning of the detailed description. And it's, oh, four

19 paragraphs in. It describes the signal processing subsystem, and it filters,

20 amplifies, corrects the signal receiving from the sensing subsystem --

21   JUDGE LEBOVITZ: Is there a page -- excuse me --

22   MS. BETCHER: I'm sorry. It's page 4 of the application as originally

23 filed.

24   JUDGE LEBOVITZ: Okay. So we don't have a copy of the

25 originally filed application? Usually, they put that in our file. Okay.

1   MS. BETCHER: I'm sorry. I really should have brought the --

2   JUDGE LEBOVITZ: I wonder what file we have -- oh, do you mean

3 the priority document?

4   MS. BETCHER: No. This is the application as filed, page 4.

5   JUDGE SCHEINER: It is page 4. It's a the bottom of page 4 --

6   JUDGE LEBOVITZ: Okay. That would be the --

7   JUDGE SCHEINER: -- of what we have in our --

8   JUDGE LEBOVITZ: Oh.

9   MS. BETCHER: Yeah. So it's correlating the signals received from

10 the sensing subsystem, and so --

11   JUDGE SCHEINER: I see it.

12   JUDGE LEBOVITZ: Page 4.

13   MS. BETCHER: That's --

14   JUDGE PRATS: Maybe five lines from the bottom?

15   JUDGE SCHEINER: Yeah.

16   JUDGE PRATS: The signal processing subsystem 208 filters,

17 amplifies and correlates the signals received from the sensing subsystem. Is

18 that what we're talking about?

19   JUDGE SCHEINER: I think so.

20   MS. BETCHER: Yes.

21   JUDGE LEBOVITZ: Oh, amplifies and correlates. Okay. Thank

22 you.

23   MS. BETCHER: Yes. And if you have any questions on that piece --

24 the other issue that I see is the Examiner stated in his Answer that the system

25 and method disclosed by Mate is therapeutic. And what the Examiner is

1 addressing is the idea that even the claim -- the therapeutic radiation source.

2 And in fact, the system and method disclosed in Mate is not therapeutic in

3 and of itself. It's just a localization and tracking system, and it's not

4 generating or applying any therapy whatsoever. The fact that it's not

5 ionizing is actually the focus of the whole system. It's pretty revolutionary

6 in the industry. And so that statement is incorrect -- the excitation source is

7 not a therapeutic radiation source. And I think it's accepted by those skilled

8 in the art, and it's defined in the specification that, you know, a therapeutic

9 radiation source refers to medical use of ionizing radiation to treat cancer.

10 So those two things should -- changed.

11   JUDGE SCHEINER: Do you have any further questions?

12   JUDGE LEBOVITZ: So the idea -- so the prior art did not teach that

13 the magnetic flux from the marker would be corrupted by the radiation?

14   MS. BETCHER: It just didn't think about it. Just --

15   JUDGE LEBOVITZ: Right.

16   MS. BETCHER: Mate's silent with respect to that. And again, the

17 difference, I think, is that it's discarding that data. I mean, in view of the art

18 that we have, differentiating between two signals or filtering a signal in

19 order to allow a signal to pass through cleaner, that's a typical electronic

20 filter that you would expect to see, and that's what's disclosed in Acker --

21   JUDGE LEBOVITZ: Right.

22   MS. BETCHER: But this is actually just discarding the signal and

23 the corruption because that's how they dealt with it, which is a little counter-

24 intuitive, and it's certainly not --

25

1   JUDGE LEBOVITZ: Right. And the Examiner said, well, it would

2   be obvious to remove noise, but the problem is there is no teaching that the

3   radiation would cause noise in the flux?

4   MS. BETCHER: Yes, exactly.

5   JUDGE SCHEINER: That's it.

6   MS. BETCHER: Okay. Thank you.

7   JUDGE SCHEINER: I think we understand the issues, and I think

8   that was very helpful.

9   MS. BETCHER: Oh, thank you. So all of these years, but I've never

10 had an oral hearing. So thank you --

11   JUDGE SCHEINER: Well, good job.

12   MS. BETCHER: -- for my first opportunity.

13   JUDGE SCHEINER: You were very well-prepared.

14   JUDGE PRATS: You actually answered the question I was going to

15 ask before I got to ask it, so --

16   JUDGE SCHEINER: Right.

17   MS. BETCHER: Well, thank you for that very much. I appreciate

18 your time this morning.

19   COURT REPORTER: Excuse me. Before you go, can I get a

20 business card?

21   MS. BETCHER: Absolutely.

22   COURT REPORTER: Okay.

23   MS. BETCHER: Hope you have a great day.

24

25

1   JUDGE LEBOVITZ: Thank you.

2   JUDGE SCHEINER: You, too.

3   (Whereupon, the proceedings, at 9:16 a.m., were concluded.)

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